

Introduction to the US Coast Guard and USCG Aviation Medicine



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Health Services Program

- CG Clinics and Sickbays
- Direct Health Care Delivery
- Medical Support of CG Operations
- Disease Prevention/Health Promotion



Safety & Environmental Health Program

- Aviation, Vessel, & Ground Safety
- Environmental Health
- Sanitation
- Safe Work Practices



Overview

- History of the USCG
- Missions of the USCG
- Types of aircraft in the USCG
- Aviation Personnel
- Aeromedical Policy
- Summary

History of the U.S. Coast Guard

- Lighthouse Service-1716 (Treasury Dept. in 1789)
- Revenue Cutter Service-1790 (Treasury)
- Life-Saving Service-1848 (Treasury)
- Steamboat Inspection-1838 (Justice, Treasury, Commerce)
- Bureau of Navigation-1848 (Treasury)

History of the U.S. Coast Guard (cont.)

- United States Coast Guard
 - Formed in 1915
 - Combined Revenue Cutter Service and Life-Saving Service
 - Bureau of Navigation and Steamboat Inspection joined USCG in 1942
 - Become part of Department of Transportation in 1967
 - Served under Navy from 1917-19, 1941-45 and 1965-72

Missions of the Coast Guard

■ 12 Primary Missions

– Air and Maritime

- » Humanitarian
- » Search and Rescue (SAR)
- » AMIO (Alien Migrant Interdiction Operations)
- » Law Enforcement (Fishing)
- » Drug Interdiction
- » Port Security
- » Mishap Investigation
- » Military Operations (activate to Navy in time of war)
- » Coast Guard Auxiliary

Missions of the Coast Guard

- Twelve Primary Missions (cont.)
 - Air and Maritime
 - » Ice operations
 - » Aids to Navigation (ATON)
 - » Environmental
 - Maritime only
 - » Boating Safety

Humanitarian

- Flood Relief
- Hurricane Relief

Search and Rescue (SAR)

- Nationwide system of boats, aircraft, cutters, and rescue coordination centers
- 24 hour alert status
- Minimize loss of life, personal injury and property damage in U.S. waters and on the high seas
 - May risk losing aircraft to save a life
 - May not risk losing aircraft to save property
 - May not risk losing a life to save a life

Drug Interdiction

- Works as a federal agency in limiting smuggling operations of illicit substances into U.S.
- Aviation and Vessel Operations
- Jurisdiction extends out of territorial waters into high seas per United Nations Charter
 - U.S. Navy-entering territorial waters of foreign country deemed act of war or piracy

Ice Operations

■ Polar Ice operations

- International Ice Patrol
- Since 1912 due to sinking of the *Titanic*
- Large Icebreakers with helo support
- Deploy for 6 month missions

■ Domestic Ice Operations

- Facilitates transportation through ice-laden domestic shipping lanes
- Uses Icebreaker Tugs, 1 large icebreaker

Mishap Investigation

- Investigation of all USCG aviation and vessel mishaps
- Investigation of civilian mishaps which occur on U.S. waterways
 - Exxon Valdez
 - Amtrak train crash in Mobile waterway
 - TWA Flight 800

Alien Migrant Interdiction Operations (AMIO)

- Massive illegal migration of populations over water
 - Haiti, Cuba
- Exposure to infectious disease
- Interdict in foreign ports if possible
- Return to country of origin or transfer to Navy in Guantanamo Bay, Cuba

Environmental Protection

■ Marine Environmental Response

- Minimize damage caused by pollutants released in the coastal zone
- reduce threats posed by potential spills of oil hazardous materials
- Assist in national and international pollution response planning

■ Port Safety and Security

- Detection of oil/hazardous substance spills
- Safeguard ports/vessels/waterways/personnel from accidental damage, injury or destruction

US Coast Guard Auxiliary

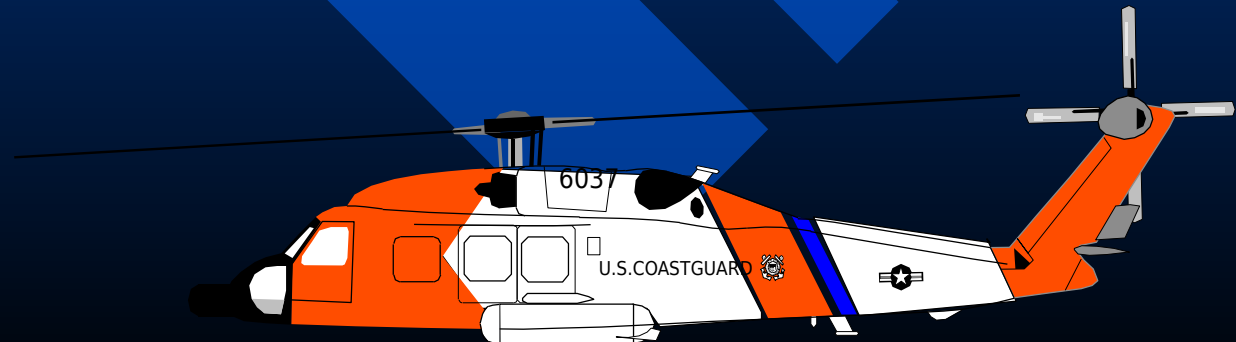
- Non-military; Coast Guard civil function
- Must own at least 25% interest in a boat, aircraft or marine radio station
- 40,000 members
- Missions:
 - Vessel exams (Courtesy Marine Exam)
 - Public education
 - Operations
 - Fellowship

Average Coast Guard Day

- Every eight minutes, conducts a SAR = 180 per day (65,700 SAR missions per year)
- Every two hours a life is saved = 12 lives per day (4380 lives per year)
- Aid 315 people/day; save \$2 million in property
- Seize 318 pounds of marijuana and 253 pounds of cocaine
- Interdict 112 illegal immigrants

Aircraft of the U.S. Coast Guard

- HC-130
- HH-25 Guardian (Falcon) Jet
- HH-65 Dolphin
- HH-60 Jayhawk
- Previous aircraft-HH-3



HC-130

■ Missions

- Search and Rescue
- Transport-supplies and personnel
- International Ice Patrol
- Law Enforcement

■ Inventory: 30

HU-25 Guardian

- Law Enforcement
- AMIO
- Limited Search and rescue
- Inventory: 23

HH-65 Dolphin

■ Missions

- Search and Rescue
- Deploys on large USCG vessels
- Law Enforcement
- Environmental Missions
- International Ice Patrol

■ Inventory: 95

■ Electronics and controls give stable hover platform

■ Relatively underpowered

HH-60 Jayhawk

- Search and rescue
- Aerial refuel capable
- Fast helo with long cruising range
- Large cargo (people) capacity
- Heavy lift capable
- No capability to carry NATO litters
- Different configuration than other military 60's
- Inventory: 42

Aviation Personnel

- Aviators
- Rescue Swimmers/Aviation Survival Technicians
- Flight Mechanics
- Flight Medics
- PJs (Para-rescue Jumpers-Air Force)
- Flight Surgeons



Aviators

- USCG has approx. 1200 aviators
- Significant demands for stable hover in poor weather during hoist operations, night operations
- Significant skill for landing on confined ship platforms in unstable seas

Rescue Swimmers (RS)/Aviation Survival Technician (AST)

- Key personnel for many shipboard/water rescues
- In charge of all aircraft safety equipment
- Heavy physical /environmental demands
 - Usual workday involves significant physical training
- Training:
 - Riggers for parachutes/life rafts
 - Rescue Swimmer training
 - Medical training to level of EMT

Flight Mechanics

- Provide maintenance and repair services for all CG aircraft
- Fly on all aircraft missions
- Usually fly on aircraft they have repaired
- Function as hoist operators during rescue missions

Aviation MEDEVAC Specialist (AMS)

- Trained as health specialists (“corpsman”)
- Further training to assist in medical aviation rescue operations (“flight medic”)
- Difficulty with HH-65 missions due to limited space and weight restrictions for Flight Mech., Rescue Swimmer, AMS and rescued person(s)
- May use medical training of Rescue Swimmer as acceptable substitute for AMS on selected missions

ParaRescue Jumpers (PJs)

- Air Force personnel
- Extensive land and sea based rescue training
- Extensive medical training (paramedic)
- Travel in teams of two or three
- Will assist USCG with difficult medical rescues; jump from C-130s, provide shipboard care for extended periods of time.

Where are the Clinics?



Flight Surgeon (FS)/Aviation Medical Officer (AMO)

■ Flight Surgeon

- Has met all the requirements of the USCG to wear the gold FS wings

■ Aviation Medical Officer

- Has trained at a DOD service Flight Surgeon Course (Army, Air Force, Navy)
- Can perform ground -based aviation medicine duties
- Has not met one or more of the requirements to be a FS or doesn't fly

Flight Surgeon Flight Requirements

- 48 hours flight time (8 hours of nights)
- 4 hours of shipboard operations (if assigned to ship-deploying helicopter unit)
- Hoists: 4 Basket/4 litter (2 of each at night)
- Emergency Egress Training
- Emergency Ground Evacuation Training
- Water Survival Training

Flight Surgeon Flight Requirements (cont.)

- Quadrennially
 - Dunker training (9D5 Egress Training)
 - HEEDS training
 - Altitude chamber (fixed wing)

USCG Flight Surgeon's Guide and Aeromedical Policy

- Last published in 1992
- Describes procedures/standards for completing flight physicals
- Discusses Aeronautical Adaptability, waiver procedures
- Aeromedical Policy-Dental, Pregnancy, Immunization, Alcohol, Medications

Flight Physicals

- Class 1 and 2
- Class 1 - all aviators under age 50
 - Class 1R-aviators over age 50 or with a waiver
 - » 1R required to fly dual pilot with an other aviator
- Class 2 - aviation personnel not engaged in actual control of the aircraft

Flight Physicals (cont.)

- Done biennially, annually after age 50
- EKGs - Quadrennially, then biennially over age 50
- SBT - Standing Balance Test
- Eso/exophoria to 10 diopters
- Flight Surgeons - meet Class 2

Waivers

■ Two types

- Temporary

- » For conditions which are not yet stabilized
- » May improve or get worse
- » Specific period of time
- » Require medical reevaluation prior to being extended

- Permanent

- » Stable defect or condition
- » May still safely perform aviation duties

■ Waiver authority is a flight surgeon in the Personnel Branch at Headquarters

Aeronautical Adaptability (AA)

- Similar to Army AA (formerly ARMA)
 - Concealment of information on history/physical or during interview
 - Presence of disqualifying psychiatric condition
 - Motivated by a less than optimal attitude towards flying
 - » prestige, pay, ego are examples
 - Adverse personality traits
 - » Immaturity, isolation, impaired self-control, impulsiveness, etc.

Aeronautical Adaptability (AA) (cont.)

- Multiple physical complaints related to stress somatization
- History of arrests, illicit drug use or social “acting out”
- Significant ,prolonged or currently unresolved interpersonal or family problems which could interfere with flight safety or flight training

Dental

- All aviation personnel must be Class 1
- Class 1 in USCG is equivalent to Class 1 and 2 in Army. (i.e. No current restorations are needed)
- Treatment involving the use of local anesthetic is grounding for 6 hours
- Extensive treatment (crowns, root canals, etc.) is grounding for 12 hours (minimum)

Pregnancy

- After confirmation, grounded until cleared by a flight surgeon.
- After cleared, is allowed to fly until beginning of third trimester, provided pregnancy continues without complication
- No pregnant members will undergo physiologic training (Dunker, HEEDS, Altitude Chamber, water survival)
- FS will discuss ergonomic/toxic hazards of aviation environment with crewmember

Immunizations

- Grounded for 12 hours, without side effects, for most immunizations.
- Grounded for 72 hours for typhoid vaccine.
- Allergy desensitization (immunotherapy) is not DQ if underlying condition is not DQ. Grounded for 6 hours post injection.

Alcohol

- Class 1 or 2 with Alcohol Abuse or Dependence DX are grounded until waived centrally
- Class 2 with either of these DXs must be cleared by local FS prior to working aircraft maintenance or flight line duties.
- Waiver procedures/requirements similar to Army Aeromedical Policy

Medication Use

- Use U.S. Army Aeromedical Policy #APL-9-89 as a guide (outdated)
- Uses Class 1 Meds (OTCs) from Army APL as meds which can be used for self-medication
- All others, call G-WKH-1
- WKH-1 has no defined policy for medication approval (yet)

Who to Call

- For any questions you have regarding Coast Guard Aeromedical Policy/Procedure or for career information for Coast Guard Physicians, please call CDR Mark Tedesco, MD, MPH
- @ 202-267-0528.
- E-mail: mtedesco@comdt.uscg.mil
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SUMMARY



